

REMARKS

Applicants thank the Examiner for considering the references cited with the Information Disclosure Statement filed October 28, 2003.

Applicants thank the Examiner for conducting a personal interview with Applicants' representative on June 9, 2004. The below discussion of the rejections of independent claims 12, 47 and 103 reflects the topics discussed at the interview, and is included for Applicants' Statement of Substance of the interview.

Applicants note that the Finality of the December 9, 2003 Office Action has been removed, as indicated in the May 26, 2004 Office Communication.

Status of the Application

Claims 1-23, 43 and 45-114 are all the claims pending in the Application. Claims 12-16, 46-48, 103 and 105 have been rejected.¹

Claims 12 and 87 are amended in a clarifying, non-limiting, manner to more clearly state the features of the invention. Claim 72 is amended to recite a feature of the invention in different language, and claims 101 and 102, which are dependent therefrom, are amended to provide correct antecedent basis.

Allowable Subject Matter

Applicants thank the Examiner for indicating that claims 1-11, 17-23, 43, 45, 54-102, 108 and 110-114 are allowed.

¹ Although the Office Action Summary indicates that claim 43 is also rejected, the Examiner has not rejected this claim in the body of the Office Action and, in fact, has indicated that it is allowed.

Applicants thank the Examiner for indicating that claims 49-53, 104, 106, 107 and 109 would be allowed if rewritten in independent form. However, Applicant respectfully requests that the Examiner hold in abeyance such rewriting until the Examiner has had an opportunity to reconsider (and withdraw) the prior art rejection of the other claims.

Anticipation Rejection

The Examiner has rejected: (1) claims 12, 13, 46 and 103 under 35 U.S.C. § 102(e) as being anticipated by *Gasvoda et al.* (US 6,299,296; hereinafter “*Gasvoda*”); and/or (2) claims 12, 13, 103 and 105 under 35 U.S.C. § 102(e) as being anticipated by *Hmelar et al.* (US 6,164,743; hereinafter “*Hmelar*”). These rejections are respectfully traversed.

Gasvoda

The Examiner alleges that *Gasvoda* discloses all of the features recited in independent claims 12 and 103, including that the “pressurized air inlet port (28)” is positioned so that the “pressure chamber [may be put] into a communication state with the atmosphere when the ink outlet section is closed (Figures 1 and 3-4)” (Office Action, pg. 3).

However, Applicants respectfully submit that the Examiner’s interpretation is incorrect, and that *Gasvoda* fails to teach or suggest: that “when the ink cartridge is removed from the recording apparatus, the pressurized air inlet port is released, to thereby bring the pressure chamber in communication with the atmosphere,” as recited in independent claim 12; and/or that the “pressurized air inlet port” is positioned “to put the pressure chamber into a communication state with the atmosphere when the ink outlet section is closed,” as recited in independent claim 103.

Specifically, *Gasvoda* discloses ink container 12 with fluid reservoir 22 attached to chassis 26 which includes fluid outlet 30 and air inlet 28. Both fluid outlet 30 and air inlet 28 are sealed by sealing members 34 and 36 “when the ink container 12 is not installed in the printer chassis 38” (col. 3, lines 58-62).

Thus, it is clear that the ink container 12 of *Gasvoda* is completely sealed when it is removed from the printer, and does not allow the pressure chamber to be in communication with the atmosphere when the ink outlet section is closed (*e.g.*, when the ink cartridge is removed from the recording apparatus).

Hmeler

The Examiner alleges that *Hmeler* discloses all of the features recited in independent claims 12 and 103, including that the “pressurized air inlet port (1108)” is positioned so that the “pressure chamber [may be put] into a communication state with the atmosphere when the ink outlet section is closed (Figures 3 and 6-8)” (Office Action, pg. 3).

However, Applicants respectfully submit that the Examiner’s interpretation is incorrect, and that *Hmeler* fails to teach or suggest: that “when the ink cartridge is removed from the recording apparatus, the pressurized air inlet port is released, to thereby bring the pressure chamber in communication with the atmosphere,” as recited in independent claim 12; and/or that the “pressurized air inlet port” is positioned “to put the pressure chamber into a communication state with the atmosphere when the ink outlet section is closed,” as recited in independent claim 103.

Specifically, *Hmeler* discloses (see FIGS. 8-10) a collapsible ink reservoir 114 arranged within a pressure vessel 1102 and connected to chassis 120 “which seals the interior of the

pressure vessel from outside atmosphere" (col. 4, lines 60-67, emphasis added). Chassis 120 includes air inlet port 1108 and ink outlet port 1110, which are not described in further detail.

Thus, *Hmeler* discloses only that the pressure vessel is sealed from the outside atmosphere by the chassis 120 / air inlet port 1108. There is no teaching or suggestion in *Hmeler* that the pressure vessel is even put in communication with the atmosphere, and thus air inlet port 108 cannot reasonably be read as allowing such communication when the pressure vessel is removed from the printer, or when the ink outlet port 1110 is closed.

Thus, Applicants respectfully submit that independent claims 12 and 103 are patentable over the applied references. Further, Applicants respectfully submit that rejected dependent claims 13-16, 46 and 105 are allowable, *at least* by virtue of their dependency.

Thus, Applicants respectfully request that the Examiner withdraw this rejection.

Obviousness Rejection

The Examiner has rejected: (1) claims 14-16 under 35 U.S.C. § 103(a) as being unpatentable over *Kimura et al.* (US 4,558,326; hereinafter "*Kimura*") in view of *Gasvoda*; and (2) claims 47-48 under 35 U.S.C. § 103(a) as being unpatentable over Japanese Publication 60-198256 A; hereinafter *JP '256*) in view of *Wax* (US 4,119,034; hereinafter "*Wax*"). These rejections are respectfully traversed.

Independent Claim 47

The Examiner takes the position that *JP '256* discloses many of the features recited in independent claim 47, but concedes that *JP '256* fails to teach or suggest that "an ink tank comprising the case and the heat welding film are hermetically sealed together by heat welding" (Office Action, pg. 6). Applicants agree that *JP '256* fails to teach or suggest such a feature.

Nevertheless, the Examiner attempts to show that such a feature would be obvious by applying *Wax*, taking the position that it discloses “in Figure 1 an ink reservoir comprising the case (1) and the heat-welding film (5) are hermetically sealed together by heat-welding” (Office Action, pg. 7). Further, the Examiner alleges that one of skill would have been motivated to modify *JP* ‘256 with *Wax* “for the purpose of sealing an opening of the ink bag case.”

In contrast, Applicants respectfully submit that one of skill would not have been motivated to modify *JP* ‘256 with *Wax* as the Examiner has alleged. It has long been held that the Examiner must “show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for a combination in the manner claimed.” *In re Rouffet*, 47 USPQ2d 1453 (Fed.Cir. 1998). The mere fact that references can be “combined or modified does not render the resultant combination [or modification] obvious unless the prior art also suggests the desirability of the combination [or modification].” *In re Mills*, 916 F.2d 680 (Fed.Cir. 1990); MPEP §2143.01.

Here, *JP* ‘256 discloses an ink cartridge with a rigid, sealed, case body 11. Pressurized air is introduced into the case body 11 by way of air introduction port 16, which results in air pressure being applied against ink storage bag 12 and ink being discharged through nozzle 26.

In contrast, *Wax* discloses a housing member 1 having an ink storage area composed of tub-shaped recess 2 and flexible plastic film 4. Arranged above the ink storage area is a plate means 7 held in an upper position by elastic diaphragm 5. Ink is discharged from the ink storage area by pressing down on the plate means 7, which in turn forces ink out of the ink storage area.

Wax does not disclose a pressurized housing member 1, and does not rely on air pressure to discharge ink.

Thus, it is clear that *JP* '256 discloses an air-pressure based ink discharging system using a sealed case body, while *Wax* discloses an ink discharging system that is based on a physical action (*i.e.*, pushing plate means 7) against the ink storage area, and does not utilize air pressure or provide a sealed housing member.

Applicants respectfully submit that the element of *Wax* cited by the Examiner as disclosing the “film” recited in independent claim 47 (elastic diaphragm 5) is directly related to the specific function of *Wax*, and would not be of any use in the *JP* '256 system. More specifically, elastic diaphragm 5 is arranged in *Wax* only to hold plate member 7 against lid 6. However, no plate member is provided in *JP* '256, nor is one needed because *JP* '256 operates via pressurized air, not physical interaction.

In fact, to modify *JP* '256 in view of *Wax*, the entire principle of operation of *JP* '256 would necessarily be changed. Specifically, to utilize the plate member 7 / elastic diaphragm 5 combination, the pressurized ink discharging system of *JP* '256 would necessarily be replaced by the physical action system of *Wax*.

However, one of skill in the art at the time of the invention would not have been motivated to so modify *JP* '256, as it has long been held that, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) MPEP § 2143.01.

Lastly, even the Examiner's proffered reasoning that one would modify *JP* '256 in view of *Wax* "for the purpose of sealing an opening of the ink bag case" is unsupported, as *JP* '256 already discloses a sealed system, as it functions by the use of pressurized air. Thus, the Examiner's identified motivation to modify *JP* '256 in view of *Wax* is unsupported, as the function she seeks to add to *JP* '256 is already present therein.

Additionally, even if it were possible to modify *JP* '256 with *Wax* as the Examiner has alleged, Applicants respectfully submit that neither *JP* '256 nor *Wax*, nor any combination thereof, teaches or suggests "an outer shell member constructed at least by a case and a heat-welding film," as recited in independent claim 47.

Specifically, *Wax* does not disclose the use of any heat-welding film therein. Thus, Applicants respectfully submit that independent claim 47 is patentable over the applied references. Further, Applicants respectfully submit that rejected dependent claim 48 is allowable, *at least* by virtue of its dependency.

Thus, Applicants respectfully request that the Examiner withdraw this rejection.

Dependent Claims 14-16

Applicants respectfully submit that dependent claims 14-16 are allowable, at least by virtue of their dependency from independent claim 12, discussed above.

Additionally, Applicants respectfully submit that one of ordinary skill in the art at the time of the invention would not have modified *Kimura* in view of *Gasvoda* as the Examiner alleges.

Specifically, *Kimura* is directed to a system utilizing a cartridge body 6 that is open to the surrounding atmosphere during printing operations. No pressurized air is applied to ink bag 5 within cartridge body 6, rather, ink is drawn out by pulse generator 13.

Gasvoda discloses an entirely different type of ink container 12, which utilizes air pressure applied to fluid reservoir 22 via pump to transmit ink to printhead 14. *Gasvoda*'s ink container, as discussed above, is closed to the outside atmosphere at all times.

Accordingly, if *Kimura* were somehow to be modified in view of *Gasvoda*, the principle of operation of *Kimura* (an open cartridge body 6) would have completely changed so that the closed cartridge body 6 of *Gasvoda* could be used.

However, one of skill in the art at the time of the invention would not have been motivated to so modify *Kimura*, as it has long been held that, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) MPEP § 2143.01.

Thus, Applicants respectfully submit that one of skill in the art at the time of the invention would not have modified *Kimura* in view of *Gasvoda*, and request that the Examiner withdraw this rejection.

Conclusion

In view of the foregoing, it is respectfully submitted that claims 1-23, 43 and 45-114 are allowable. Thus, it is respectfully submitted that the application now is in condition for allowance with all of the claims 1-23, 43 and 45-114.

Amendment Under 37 C.F.R. § 1.111
U.S. Appln. No.: 09/765,411

Attorney Docket # Q62798

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Please charge any fees which may be required to maintain the pendency of this application, except for the Issue Fee, to our Deposit Account No. 19-4880.

Respectfully submitted,



Timothy P. Cremen
Registration No. 50,855

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

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